

A Comparison of the Working Methods of Natural Science, Social Science, and Religion from the Perspective of the Philosophy of Science

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ARTICLE INFO	ABSTRACT
Volume: 4 ISSN: 2963-5489 KEYWORD Philosophy, natural science, social science, religion	This research aims to compare the workings of natural sciences, social sciences, and religious studies from the perspective of the philosophy of science. The comparison focuses on fundamental aspects: the method of seeking truth and the characteristics of the resulting truth. Natural sciences study physical reality and empirical phenomena that are objective and exist independently of the observer. The approach follows the scientific method, which includes structured observation, hypothesis formulation, and controlled experiments. The truth in natural sciences is considered relative, as scientific theories are continuously tested and refined. In contrast, social sciences deal with highly complex and subjective objects of study: human beings and society. Truth in social sciences is often contextual and varied, reflecting the multiple interpretations of social reality. Philosophy views social sciences as aligning with an ontological approach that describes the nature of individual social reality, reinforced by an epistemological foundation that explains the nature of knowledge about reality, from how knowledge is acquired to its validity. Religious studies, on the other hand, have a transcendental object, which goes beyond ordinary physical experience. The method is based on revelation and faith, where truth is considered to come from an absolute divine source. The search for truth is carried out through the interpretation of sacred texts and spiritual experience, not through empirical observation or experimentation. Consequently, the truth in religious studies is seen as dogmatic and absolute, not subject to scientific evidence.

1. Introduction

Confronted with a rather intricate and complex reality, individuals are required to strive to live and understand it with the knowledge they possess. This aligns with the opinion put forth by Afanasyef, who stated that science is human knowledge concerning nature, society, and thought (Sukma Anggreini et al., 2023). That effort can be realized in three main fields: natural sciences, social sciences, and religious studies. These three fields of knowledge imply finding the truth through different mechanisms. As stated by Koento Wibisono, the essence of science concerns the matter of conviction that a scientist must choose in answering an existing question (Pratama et al., 2025).

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In finding truth, these three fields have their own methods and mechanisms. First, the natural sciences focus on objectivity, measurement, and replicable experiments, striving for a universal truth. In the philosophy of science, natural sciences fall under the experimental and empirical approach, which posits that knowledge is acquired through observation and perception of existing experiences (Yetti, 2023). Both social sciences are the study of the interactions and social issues of a society with an individual by combining interpretive and qualitative approaches to find truth and meaning behind every individual action. In the philosophy of science, social science is included in the ontological approach, which describes the nature of the reality of the social individual regardless of our precise knowledge of it, and the epistemological approach, which explains the nature of knowledge about reality, from the way of acquiring knowledge to its validity. No philosophical epistemology can be constructed from self-evident truths that are solid for all time (Dwisusila et al., 2023). Religious knowledge, on the other hand, differs in how it understands reality. Its mechanism concentrates on faith and revelation, where truth is considered something transcendental, existing beyond the physical world and rational thought. Religious knowledge plays a role in answering profound questions about life and morality that are beyond the scope of science.

Based on the explanation above, a more profound question arises: What are the methodological or operational differences among natural sciences, social sciences, and religion from the perspective of the philosophy of science? Understanding the distinctions and connections among the methods of natural science, social science, and religious beliefs is not only crucial in the academic world but also highly significant in daily life. In an era where knowledge expands rapidly and conflicts of opinion frequently occur, the ability to differentiate between testable facts, social interpretations, and spiritual truths becomes highly relevant. This discussion is expected to enhance understanding, encourage critical thinking, and facilitate constructive dialogue among diverse perspectives. By doing so, we can appreciate the various ways humans seek truth and achieve a more comprehensive understanding of the universe and our place within it. Therefore, this topic can be further developed by comparing and contrasting the similarities and differences among the natural sciences, social sciences, and religious studies within the framework of the philosophy of science, delving deeper into the operational methods of each field.

2. Literature Review

2.1 Definition, Concepts, and Theories of Natural Science

Natural science can be defined as a body of theoretical knowledge acquired through a specific process, including observation, experimentation, inference, and theorization (Setiadi et al., 2020). Natural science is the study of natural phenomena that serves as the starting point for forming concrete concepts and principles (Sujalu et al., 2021). Based on these various definitions, natural science can be interpreted as a field of study that focuses on objectivity, measurement, and reproducible experiments. It seeks to achieve universal truth and is also the result of the evolution of human thought. This field encompasses the results of observation and experience, enabling individuals to develop an approach to truth that doesn't solely rely on rational abilities.

The core of how natural science works is a logical consequence of an individual's basic definition or perception of science, which is limited to something that can be observed and sensorially (empirically) verified. Thus, the main concepts of natural science are empiricism, positivism, or experimentalism. As a result, all truth is reduced to empirical truth. The Philosophy of Science is expected to show the direction and purpose of scientific activity, which is to obtain scientific knowledge whose truth can be accounted for, while also recognizing that there are different levels of targets that need to be pursued in scientific activity (Dewi Silvia, 2021).

Natural science philosophy as a basis for developing science refers to the values that evolve in line with human thought patterns in the form of culture and norms that are adopted and become a way of life. Therefore, there are several fundamental philosophies of natural science: vitalism: This means that natural science cannot be separated from the influence of existing myths. This is a doctrine that states there is a power outside of nature, mechanism: This is the view that a number of natural laws govern all movement in the universe, and agnosticism: Followers of this philosophy only study natural phenomena (Sujalu et al., 2021). Based on this, natural science requires the ability to know and understand observed natural phenomena, as well as to produce truth through knowledge related to natural science.

2.2 Definitions, Concepts, and Theories of Social Sciences

Social science is a field of study that seeks to find the truth about the nature of social science, its origins, and its causes. It uses systematic, coherent methods and reason to explore these topics (Saleh & Anwar, 2023). Social sciences study human behavior and activities in communal life, with a scope that includes sociology, economics, history, geography, psychology, politics, and

education (Sudrajat et al., 2020). Based on these definitions, social science can be understood as a field of study that examines the social interactions of individuals within society, with a focus on the social objects being studied.

There are many philosophical methodologies in the social sciences, including realism, empiricism, positivism, idealism, rationalism, objectivism, and subjectivism, among others. These approaches can be analyzed based on their ontological assumptions, which refer to their theories of reality (Dwisusila et al., 2023). The main principles of social science are as follows: human subjectivity is the object of its study; contextualism, which means that all social phenomena must be understood within their historical, cultural, and geographical context; and theory and analysis, where social science develops theories to interpret patterns of individual behavior and social structures.

The material for philosophy in social sciences is something that can investigate various fields within society. We are faced with the reality that humans live together with other humans, and together they create a material and spiritual living situation that, in turn, influences them. The formal material for philosophy in social sciences explores philosophical questions about social issues and social behavior (Priyanto & Suyitno, 2021). Social sciences are concerned with social values, so indirectly, social values are also related to morality within a societal context.

2.3 Definitions, Concepts, and Theories of Religious Studies

According to Quraish Shihab, religious knowledge has a special nature; it is highly personal, its source is a person's soul, and it is impossible for others to provide guidance if the soul itself does not reveal it. Considering this view, it is clear that religious matters are a belief that resides in the soul, as the inner self (soul) is capable of feeling profound truth (Ritonga, 2024). In the philosophy of science, religious studies are part of humanity's effort to understand truth and reality, encompassing spiritual and moral aspects that lie beyond empirical science (Wijaya, 2021). Based on this definition, religious studies can be interpreted as a field of knowledge that focuses on faith and revelation, where truth is considered something transcendental, transcending the world, the physical, and human reason.

The concept of how religious studies works from a normative perspective is a type of approach that views religion from the standpoint of its fundamental and original teachings from God, which do not yet contain human thought. This means that the normative approach is a legal-formal approach, where all the teachings are contained within the sacred texts (Akbar, 2023). Religious studies also use a transcendental perspective, which is a field of knowledge that discusses everything beyond the reach of human sensory experience.

Philosophically, there's a similarity between philosophy and religious studies: both seek the truth. Philosophy, in its own way, tries to get to the essence of things be it nature, humanity, or God. Religious studies, with its distinct characteristics, provides answers to fundamental questions about nature, humanity, and God. There are also differences between them. Philosophy is rooted in human reason and the truth it finds is relative. In contrast, religious studies teaches truth and provides answers to fundamental issues through revelation or holy scriptures, and its truth is considered absolute (Dewi Silvia, 2021).

3. Methodology

This article uses library research to gather various information and data related to the topic discussed through documents, books, and scientific articles.

4. Results and Discussion

4.1 The definition of The Philosophy of Science

The term philosophy originates from the Greek word "philosophia," which comes from the verb "philosophien," meaning "to love wisdom." "Philosophia" is a combination of the words "philein," meaning "to love," and "sophia," meaning "wisdom." Generally, philosophy is the human endeavor to radically, integrally, and systematically understand, explore, and delve into the nature of God, the universe, and humanity using one's intellect. This effort aims to produce knowledge about the essence of things that is attainable by human reason, and to determine how a person should act after achieving that desired knowledge. This section is a comparative or descriptive analysis of the study based on the study results, previously literature, etc. The results should be offered in a logical sequence, given the most important findings first and addressing the stated objectives. The author should deal only with new or important aspects of the results obtained. The relevance of the findings in the context of existing literature or contemporary practice should be addressed (Rewita, 2022). Based on this meaning, philosophy can be

described as a way or an individual's effort to deeply and earnestly seek to understand a concept using reason in a radical, integral, and systematic way to arrive at a universal truth.

The word "ilmu" in Indonesian has a meaning of knowledge that refers to a systematic activity of building and organizing knowledge in the form of explanations and predictions about the universe. Additionally, "ilmu" is said to be knowledge that is rational, systematic, comprehensive, consistent, and general (Sukma Anggreini et al., 2023).

Based on the definitions of philosophy and science above, it can be said that philosophy of science is a branch of philosophy that specifically studies and reflects on the nature, methods, and limitations of scientific knowledge. Therefore, the goal of the philosophy of science is to inquire into and critically evaluate scientific knowledge, the ways in which that knowledge is obtained, and the purpose of its application.

4.2 The Methodology of Natural In The Perspective of Philosophy of Science

Natural science is central to the way it works, with reasoning drawn from the individual's basic definition of science, which is limited to something that can be observed and sensorially (empirically) verified. Thus, natural science is a theoretical science based on observations and facts about what happens, which will be investigated and repeatedly tested through experiments. The results of these experiments are then formulated into scientific explanations in the form of a theory derived from previous observations.

In line with the philosophical school of thought, empiricism, which states that knowledge is acquired through observation or perception via experience. Empiricism is a form of philosophy in which all knowledge comes from human experience. Empiricism is also a school of thought that rejects the notion that humans are born with innate knowledge (Yetti, 2023). The way natural science operates according to the theory of empiricism is deeply tied to experience and observation. This theory rejects the view that knowledge comes from pure reason or pre-existing ideas. Instead, it emphasizes that all scientific knowledge originates from information gathered through the senses.

Empiricism emphasizes that human knowledge is limited to things that can be seen and tested. Thus, this school of thought is critical of abstract and speculative thinking in the process of forming and mastering knowledge. Therefore, the main way to acquire knowledge is through the use of the scientific method. According to the empiricist view, knowledge is obtained from experience, so sensory perception is considered the clearest and most ideal form of understanding (Azzah Fadiyah Nurfadhilah Fahman et al., 2025).

Natural science based on empiricism holds the view that observation and sensory experience are the only ways to understand the universe. This method rejects the idea that reason or intuition alone can give us information about the physical world. Therefore, the scientific method has principles for finding truth through; observation: Gathering data through experiments, observation, and measurement, induction: Drawing general conclusions from specific observations, and verification: The results can be verified by others. Truth in natural science is temporary, relative, and subject to change. There is no such thing as absolute truth, as every theory can be replaced by a better one if new evidence is found.

4.3 The Methodology of Social In The Perspective of Philosophy of Science

The philosophical view on social science methodology is interpretive. This is an approach that involves interpreting something, which generally requires analyzing and understanding the meaning contained within an event. As a result, most methods used in the social sciences are qualitative, focusing on analyzing and interpreting phenomena. Based on this, philosophy also views social science as aligned with an ontological approach, which describes the nature of individual social reality. This is reinforced by an epistemological foundation that explains the nature of knowledge about reality, from how knowledge is obtained to its validity. Because of this, both of these approaches serve as an essential and interconnected philosophical foundation in the study of social science. Social science examines and focuses on social reality using systematic reasoning and methods. The nature of truth in social science is context-dependent and has multiple perspectives. There is no single, absolute truth, as social reality can be understood in different ways.

4.4 The Methodology of Religious In The Perspective of Philosophy of Science

A philosophical perspective, the study of religion is not merely a research of rituals or sacred texts, but a field that seeks to understand and examine the essence of beliefs, spiritual experiences, and religious institutions in a deep and analytical manner. The academic study of religion operates using normative principles that view religion as a source of absolute truth and a

dogmatic moral guide. Therefore, this field focuses solely on religious texts and doctrines, considering a truth derived from religion to be one that does not require external justification, such as from science or empirical data, because it is of divine origin. Transcendence is another principle present in the study of religion, focusing on and discussing the spiritual and metaphysical dimensions of faith, which are considered to be beyond the reach and measurement of ordinary scientific methods. The nature of truth in the academic study of religion is considered absolute and binding. This truth cannot be questioned by data obtained through experience, as it is seen as coming from a perfect source. Truth in religion serves as the foundation of belief, not the result of a process of proof.

5. Conclusion

A philosophical perspective, truth in natural sciences is acquired through measurement and empirical evidence via the scientific method. This truth is considered temporary, relative, and subject to change because there is no such thing as absolute truth; every theory can be replaced by a better one if new evidence is found. In the social sciences, which deal with the complexity of humans and society, truth is obtained through interpretative and qualitative methods, explained through an ontological approach and strengthened by an epistemological one. The nature of this truth is context-dependent and has multiple perspectives, with no single absolute truth, as social reality can be understood in different ways. The last, in religious studies, truth relies on revelation and faith to understand what is transcendental and absolute.

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